



188/167
Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:) Group Art Unit 291
ANTHONY MAGLICA) Examiner M. Tung
Serial No. 07/411,576)
Filed: September 22, 1989)
For: FLASHLIGHT) Los Angeles, CA 90017

RECEIVED
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GROUP 2900

DECLARATION OF FRED R. MCALISTER

August 23, 1993

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

I, Fred McAlister, do hereby state as follows:

1. I am Vice President (Corporate Planning) of Mag Instrument, Inc. (hereinafter "Mag").

2. I have previously submitted in connection with this Application my declaration dated December 16, 1993 and attached thereto were copies of my declarations dated February 8, 1991, May 28, 1991 and November 21, 1991 filed in connection with a co-pending U.S. Design Patent Application, Serial No. 410,965.

3. For the purposes of preparing patent drawings for a co-pending U.S. Design Patent Application, Serial No. 410,965, I was requested on January 23, 1991 to duplicate the profile of the head of the flashlight shown in Figure 2 of a copy of the first sheet of the original drawings which I understand were submitted on

September 6, 1984 to the Patent Office as part of the application Serial No. 648,032, now U.S. Patent No. 4,577,263. A copy of this first sheet of the original drawings is attached hereto as Exhibit A.

4. As a result of this request, I took steps to duplicate the profile of the head of the flashlight shown in Figure 2 of Exhibit A.

5. The steps I took were set forth in paragraph 3 of my February 8, 1991 declaration and included the following steps:

- a. Figure 2 of the drawing which is Exhibit A was overlayed with transparent engineering graph paper with 0.100 inch grid lines;
- b. The drawing and engineering graph paper were fixed in position and observed under a ten-power fluorescently illuminated magnifier;
- c. Points were plotted and measured in 0.100 inch increments along the curvature of the head of the lines of Figure 2 representing the outside surface of the head.

6. On or about May 3, 1991, I was requested to vary the steps used before by plotting and measuring points along the curvature of the head of the lines of Figure 2 representing the outside surface of the head in smaller increments in an attempt to more precisely duplicate the profile of the head.

7. Thus, I duplicated the profile of the head of the flashlight shown in Figure 2 of Exhibit A by the following method:

- a. Figure 2 of the drawing which is Exhibit A was overlayed with transparent engineering paper and lines were drawn across the head curvature in 0.050 inch increments;
- b. The drawing (Exhibit A) and engineering paper were fixed in position and observed under a ten-power fluorescently illuminated magnifier;
- c. Points were plotted and measured in 0.050 inch increments along the curvature of the head of the lines of Figure 2 representing the outside surface of the head;
- d. The dimensional data derived from plotting and measuring these points was then, under my supervision, input and plotted on a Computer Aided Design ("CAD") System (Anvil 5000 PC, Version 2.0, DXF);
- e. The plot points of the profile of the head were blended using the spline/arc three-point method (beginning, center and end of arc) and tangency points were connected with straight lines, as they occurred; using the computer software;

f. Using the data generated, the CAD System at Mag reproduced the same head profile of Figure 2 of Exhibit A, but in the size shown in the figures of the drawings which were submitted to the Patent Office on May 29, 1991, in connection with the co-pending U.S. Design Patent Application, Serial No. 410,965. (Copies of these drawings are attached hereto as Exhibit B);

g. The CAD System at Mag with the data integrated into an ink pen plotter (Cal Comp 1025) generated the Exhibit B drawings;

h. The CAD System at Mag used to produce the Exhibit B drawings was operated by Robert Plumb, a draftsman at Mag who works under my supervision.

8. The shape or profile of the flashlight head shown in Exhibit B drawings is the same as the shape or profile of the flashlight head shown in Figure 2 of Exhibit A. This is clearly demonstrated by the overlays which were submitted as Exhibits I and II in connection with the co-pending U.S. Design Patent Application, Serial No. 410,965. Exhibits I and II are opaque and transparent copies of the flashlight head shown in Figure 2 of Exhibit A and the flashlight head shown in the plan views of Exhibit B.

9. In December, 1991, new drawings were prepared in connection with this Application. These drawings are the formal drawings which were before the Board of Patent Appeals and

Interferences (hereinafter the "Board") when it made its Decision which was mailed on June 23, 1993 and is designated Paper No. 26. These drawings are referred to in the Decision as the Appendix II drawings. Robert Plumb produced the Appendix II drawings using the CAD System and the same computer program used to produce the shape or profile of the flashlight head shown in the Exhibit B drawings was used to produce the shape or profile of the flashlight head shown in the Appendix II drawings. For this reason, the shape or profile of the flashlight head shown in the Appendix II drawings is the same as the shape or profile of the flashlight head shown in the Exhibit B drawings.

10. In July, 1993, I was sent a copy of the Decision of the Board. In connection with this Decision, I was requested by Robert C. Weiss of Lyon & Lyon to prepare new formal drawings in view of certain of the objections raised by the Board with respect to the Appendix II drawings.

11. Under my supervision, I had Robert Plumb prepare new formal drawings which are attached hereto as Exhibit C and which I understand are being submitted to the Patent Office in connection with the August 23, 1993 Response Pursuant to 37 C.F.R. 1.196(b)(1).

12. The shape or profile of the flashlight head shown in the Exhibit C drawings is also the same as the shape or profile of the flashlight head shown in the Appendix II and Exhibit B drawings. This results from the fact that the same computer program was used by Robert Plumb in the CAD System to produce the shape or profile of the flashlight head in all three of these

drawings. In fact, to my knowledge since my work in May, 1991 described in the above paragraphs 6 and 7, the shape or profile of the flashlight head in each of the formal drawings submitted to the Patent Office in connection with this Application, or in connection with the co-pending U.S. Design Patent Application, Serial No. 410,965, has been generated by this same computer program and is therefore the same in each of these formal drawings. This is also true with respect to the shape or profile of the flashlight head shown in Exhibits IX, X and the overlay of Exhibit XV which were submitted with my declaration dated November 21, 1991.

13. As indicated above, the shape or profile of the flashlight head of the Exhibit C drawings is the same as the shape or profile of the flashlight head shown in the Appendix II drawings. However, other changes were made in the Exhibit C drawings which are described below in view of certain of the objections raised by the Board with respect to the Appendix II drawings.

14. The Board made a comparison of a recess in the end disc designated Bd5 in the original utility or Appendix I drawings with a recess in the end disc designated Bd5a in the Appendix II drawings. The Board indicated in its Decision on pages 19 and 20 that, as compared to the shallow recess designated Bd6 in the Appendix I drawings, an aperture or deep well designated Bd6a without a bottom wall was shown in the Appendix II drawings. The Board further stated that because of this difference the bottom end of the bulb 45 could not be seen in Figure 8 of the Appendix I drawings. The change shown in Figure 1 of the Exhibit C drawings shows a shallow recess in the end disc like the shallow recess Bd6

and the bottom end of the bulb can also be seen.

15. The Board in its Decision at page 20 stated that the diameter of the central aperture Bd6a relative to the outer diameter of the end disc portion Bd5a in the Appendix II drawings is significantly smaller than the diameter of the recess Bd6 relative to the outside diameter of the end disc portion Bd5 in Figures 5 and 8 of the Appendix I drawings. I measured the diameter of the recess Bd6 and the outside diameter of the end disc portion Bd5 in Figure 8 of the Appendix I drawings. The ratio of these diameters was .53. This ratio was used for the diameter of the central aperture and the outer diameter of the end disc shown in Figures 1 and 3 of the Exhibit C drawings. The diameter of the central aperture and the outer diameter of the end disc shown in Figures 1 and 3 of the Exhibit C drawings are proportionally the same as the diameter of the central aperture Bd6 and the outer diameter of the end disc Bd5 shown in Figure 8 of the Appendix I drawings.

16. The Board in its Decision at page 21 states that in Figures 5 and 8 of the Appendix I drawings the outer diameter of the end disc portion Bd5 is shown to be substantially the same as the pitch or maximum diameter of the threaded portion designated Bd8 and that in Figures 1 and 2 of the Appendix II drawings the diameter of the end disc portion Bd5a is significantly smaller than the pitch or maximum diameter of the threaded portion designated Bd8a. The Board is partially in error. By referring to Figure 5 of the Appendix I drawings, which is clearer in this respect than Figure 8 of the Appendix I drawings, I compared the outer diameter of the end disc Bd5 with the pitch or maximum diameter of the

threaded portion Bd8. The outer diameter of the end disc Bd5 is smaller than the pitch or maximum diameter of the threaded portion Bd8 and instead is like that shown in Figures 1, 2 and 3 of the Exhibit C drawings.

17. The Board stated in its Decision at page 21 that a beveled or conically shaped intermediate portion designated Bd9 in the Appendix II drawings between the threaded portion Bd8a and the end disc portion Bd5a is not found in the Appendix I drawings. The Exhibit C drawings do not show any beveled or conically shaped portion and instead show a cylindrical portion between the end disc and the threaded portion as shown clearly in Figure 5 of the Appendix I drawings.

18. The Board in its Decision at page 22 stated that there were differences between the textured mesh or net-like patterns of the central barrel portions shown in the Appendix II and Appendix I drawings. The Board indicated that the mesh or net-like pattern designated Bd10 in the Appendix I drawings is much more coarsely textured having significantly larger interstices than the textured mesh or net-like pattern designated Bd9 of the Appendix II drawings. The Exhibit C drawings show a pattern with larger interstices than the Appendix II drawings and is like the pattern of the Appendix I drawings.

19. The Board in its Decision at page 27 stated that the length and diameter of the threaded portion Bd8a in the Appendix II drawings was different than the length and diameter of the threaded portion Bd8 in the Appendix I drawings. I measured the length from the o-ring to the upper end of the barrel and the diameter of the

threaded portion shown in Figure 8 of the Appendix I drawings. The ratio of this length to diameter is 1.17. In the Exhibit C drawings the diameter of the threaded portion and the length from the o-ring to the upper end of the barrel is in direct proportion to the same diameter and length shown in Figure 8 of the Appendix I drawings.

20. I declare further all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true. I also declare further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Executed at Ontario, California on the 23rd day of August, 1993.



FRED R. MCALISTER

Respectfully submitted,
LYON & LYON

Dated: August 23, 1993

By: _____
Robert C. Weiss
Reg. No. 24,939

611 West Sixth Street
34th Floor
Los Angeles, California 90017
(213) 489-1600

FIRST SHEET OF ORIGINAL DRAWINGS

EXHIBIT A

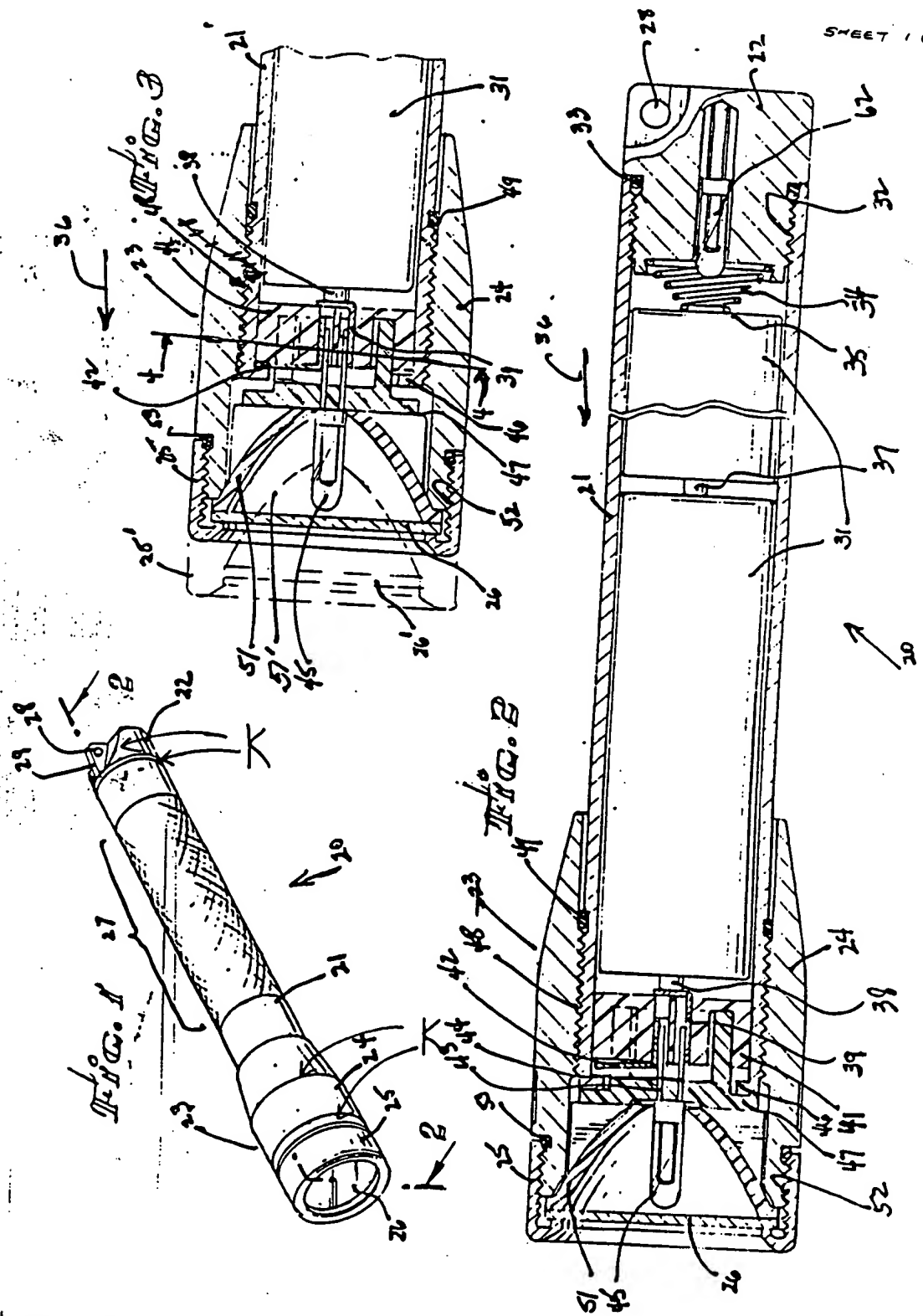
648032-1

06/648032

PD 7337

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SHEET 1 OF 2



MAG INSTRUMENT

7-23-B4

EXHIBIT "A"

U.S. DESIGN PATENT APPLICATION, SERIAL NO. 410,965

EXHIBIT B

FIG. 1.

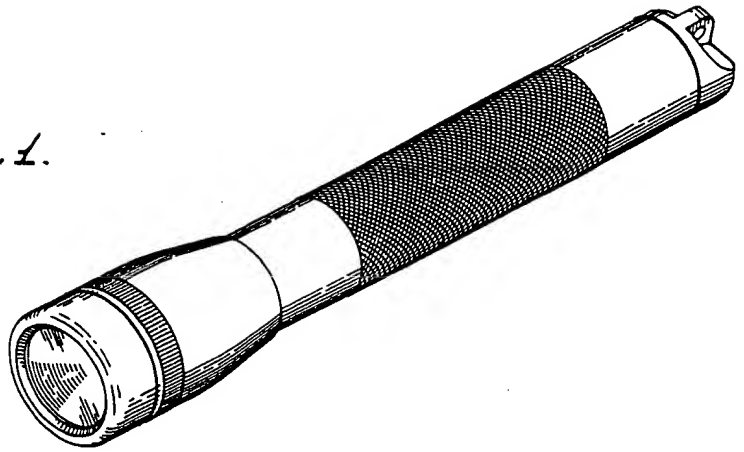


FIG. 2.

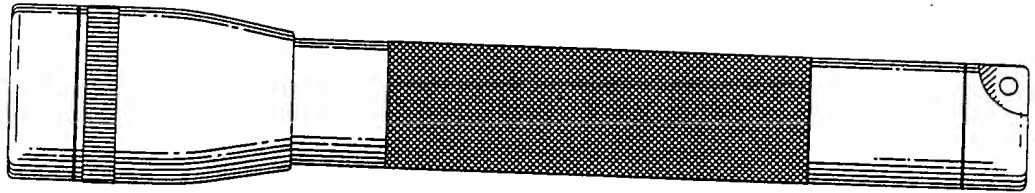


FIG. 3.

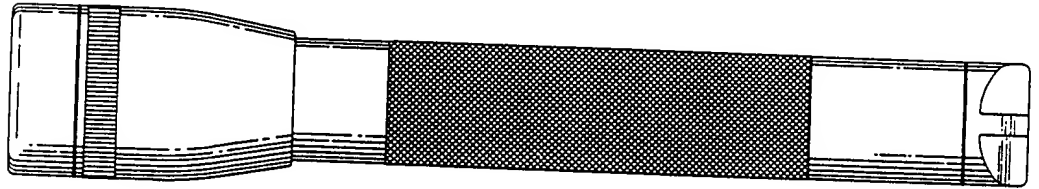


FIG. 4.

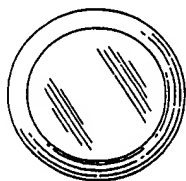
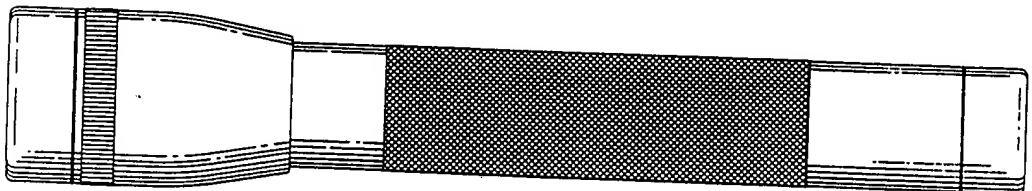


FIG. 5.

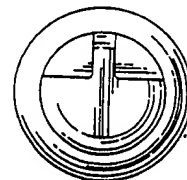


FIG. 6.

FIG. 7.

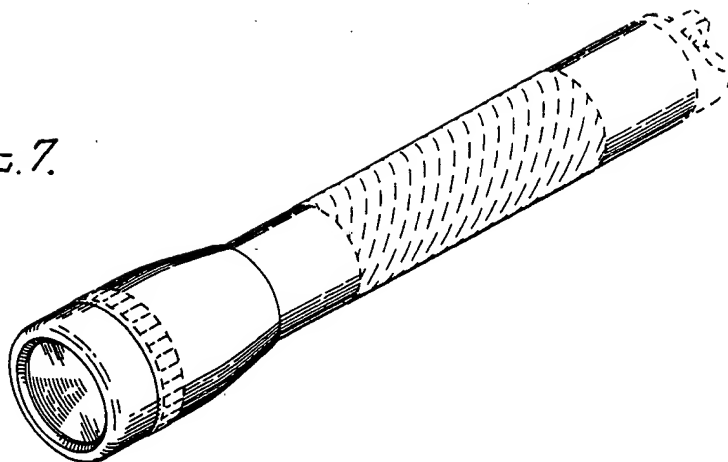


FIG. 8.

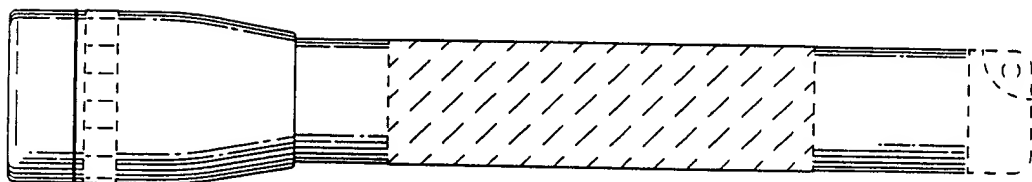


FIG. 9.

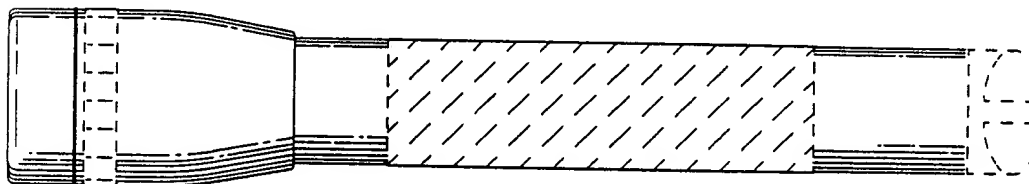


FIG. 10.

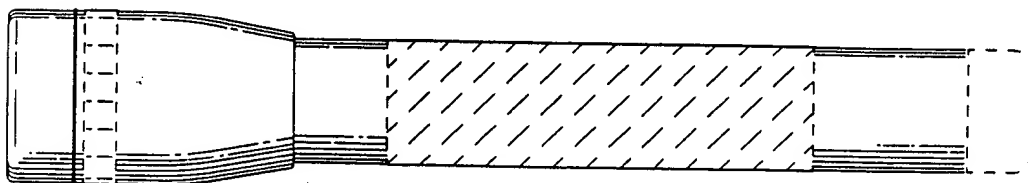


FIG. 11.

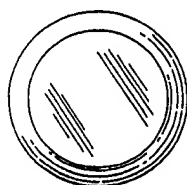


FIG. 12.

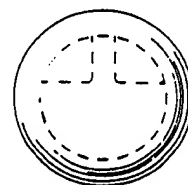


FIG. 13.

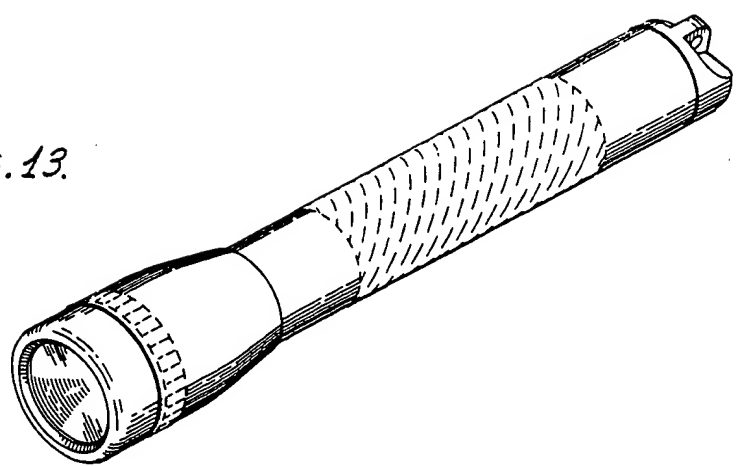


FIG. 14.

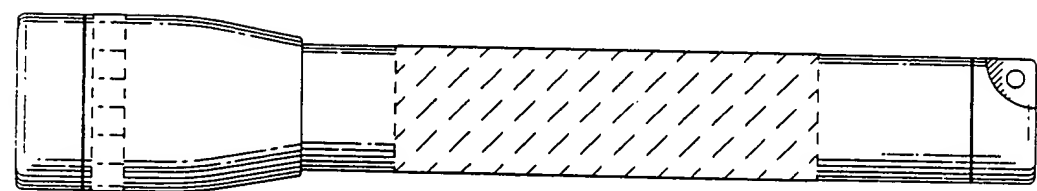


FIG. 15.

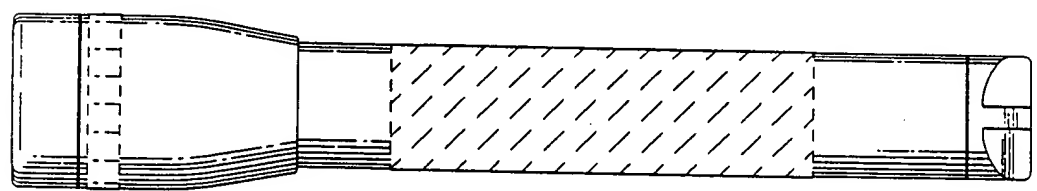


FIG. 16.

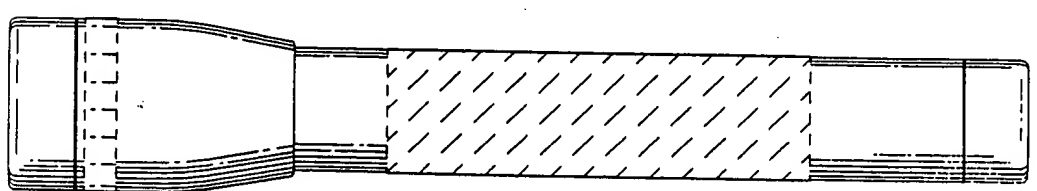


FIG. 17.

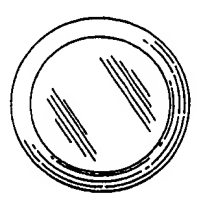
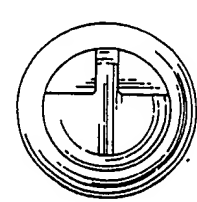


FIG. 18.



NEW FORMAL DRAWINGS

EXHIBIT C

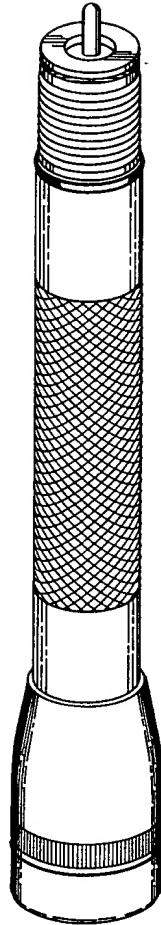


FIG. 1.



FIG. 2.

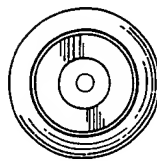


FIG. 3.

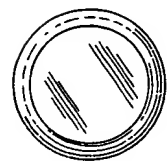


FIG. 4.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:)	Group Art Unit 291
MAG INSTRUMENT, INC.)	Examiner M. Tung
Serial No. 410,965)	
Filed: September 22, 1989)	
For: FLASHLIGHT)	Los Angeles, CA 90017

DECLARATION OF FRED R. McALISTER
PURSUANT TO 37 C.F.R. 1.195

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

November 21, 1991

Sir:

I, FRED R. McALISTER, do hereby state as follows:

1. I am Vice President (Corporate Planning) of the Applicant, Mag Instrument, Inc. (hereinafter "Mag").
2. I have previously submitted a declaration dated February 8, 1991 and a declaration dated May 28, 1991 in connection with above-identified application.
3. I submit this declaration pursuant to 37 C.F.R. 1.195 because the Examiner in her Answer has questioned whether Figure 1 in the original drawings was a mistake (Examiner's Answer, p.8) and because the Examiner's presentation of intersecting lines along the side contour or profile of the flashlight heads shown in the drawings attached to her Answer as Photoprint A and Photoprint B is skewed and misleading.

4. I know that Figure 1 of the original drawings showing a flashlight head with a mid-line around the head is a mistake because I prepared the original engineering drawings which the patent draftsman used to prepare the patent drawings.

5. Attached as Exhibit III is a blueprint of the design layout drawing which I drew on July 18, 1983 and which bears my initials. It is my practice when preparing engineering drawings for a product to prepare first a design layout drawing, then prepare detail component drawings and then prepare a final assembly drawing.

6. Attached hereto as Exhibit IV is a copy of a detail component drawing of the head of the flashlight and which also includes my initials. Certain Mag Confidential and proprietary information on this drawing which is not relevant to the present issue has been blocked out. The original of this drawing was prepared on July 18, 1983. Exhibit IV is the same as the original drawing except, as indicated on the drawing, a revision A was made on March 13, 1985. Revision A changed the original radius of the contour or profile of the curved head from a 4.80 inch radius to a 4.57 inch radius.

7. Attached hereto as Exhibit V is a blueprint of a final assembly drawing which I prepared on April 20, 1984 and which bears my initials. The head of the flashlight of this drawing was made from the Exhibit IV detail component drawing before revision A was made. Thus, the contour or profile of the head in the final assembly drawing, Exhibit V, was not angled, but was curved using the original 4.80 inch radius.

8. The flashlight which is the subject of these engineering drawings, Exhibits III through V, and which is

manufactured by Mag and sold as the Mini Maglite® flashlight has always had a head with a curved contour or profile, but the radius has changed slightly over the years for manufacturing reasons.

9. Attached hereto as Exhibit VI is a copy of the first sheet of the original patent drawings dated July 23, 1984 and which I understand, with the exception of certain notations believed to have been subsequently added by the Examiner in the Patent Office, is a copy of the first sheet of the drawings which were submitted on September 6, 1984 to the Patent Office as part of the application, Serial No. 648,032, now U.S. Patent No. 4,577,263. A comparison of Figure 2 of the original patent drawings, Exhibit VI, with the final assembly drawing, Exhibit V, shows that, with the exception of certain internal components of the bulb holder assembly, Figure 2 of the original patent drawings was copied from the final assembly drawing and therefore includes a flashlight head with the original 4.80 inch radius curved contour or profile.

10. Figure 1 of Exhibit VI is a perspective view which was not copied from any engineering drawings. This figure by the patent draftsman unfortunately included certain mistakes including the mid-line around the head which is marked in red and designated by the letter "X". No mid-line should have been included because as shown in the engineering drawings, Exhibits III, through V, the contour or profile of the head of the flashlight is curved and in particular, as shown in Exhibit IV before revision A, was curved using the original radius of 4.80 inches.

11. The Examiner stated in her Answer that she ". . . does not see the suggestion of the curved, rounded head, with no

distinct change in plane, in the figure views of the parent case, instead, the views support a flashlight head with a distinct intersection" (Examiner's Answer pp. 6-7). To support this position, the Examiner drew intersecting lines along a side contour of the flashlight head shown in the original drawings (Photoprint A) and along a side contour of the flashlight head shown in the present set of formal drawings (Photoprint B). However, the Examiner skewed these intersecting lines in such a way that the results are entirely misleading.

12. In order to demonstrate the inaccuracy and skewed nature of the Examiner's intersecting lines presentation, I caused a series of enlargements to be made. These enlargements were made by an outside company, Faust Printing of Rancho Cucamonga, California, on very high resolution photographic equipment to provide the most exact duplication possible. The enlargements are approximately five times larger than the drawings which were photographed and approximately ten times larger than the actual manufactured component parts.

13. Exhibit VII and Exhibit VIII are blueprints of the photo enlargements of the head of the flashlight shown in Figures 2 and 3, respectively, of Photoprint A which was attached to the Examiner's Answer.

14. Exhibit IX and Exhibit X are blueprints of the photo enlargements of the head of the flashlight shown in Figures 1 and 3, respectively, of Photoprint B which was attached to the Examiner's Answer.

15. Exhibit XI and Exhibit XII are blueprints of the photo enlargements of the head of the flashlight shown in Figures 2 and 3, respectively, of a copy of the first sheet of the

original patent drawings which I understand were submitted on September 6, 1984 to the Patent Office as part of the application, Serial No. 648,032, now U.S. Patent No. 4,577,263.

16. Exhibit XIII and Exhibit XIV are blueprints of the photo enlargements of the head of the flashlight shown in Figures 2 and 3, respectively, of the printed patent drawings of U.S. Patent No. 4,577,263.

17. Exhibit XV is an overlay comprising a bottom opaque sheet and an upper transparent sheet. The bottom opaque sheet is a velox photo enlargement of the head of the flashlight shown in Figure 2 of the first sheet of original patent drawings and made from the same copy from which Exhibit XI was made. The upper transparent sheet is an enlarged exact copy of the profile of the head of the flashlight shown in the present formal drawings and was made using computer-aided drafting equipment as previously discussed in my declarations dated February 8, 1991 and May 28, 1991.

18. By enlarging Photoprints A and B attached to the Examiner's Answer, it can be seen how the Examiner skewed the lines in her intersecting lines presentation to effect the result. As seen in the enlargements of Figures 2 and 3 of Photoprint A, Exhibits VII and VIII, the Examiner, in trying to show that the contour of the head of the flashlight in Figures 2 and 3 of the original drawings conformed to the shape of straight intersecting lines, drew the lines inside the outside edge of the contour line. This is apparent because a portion of the fuzzy or rippled contour line created by poor resolution can be seen on the outside of the straight lines. See in particular the straight line as indicated by the letter "Y" extending from the barrel end of the head in Figure 2, Exhibit VII. This is an

incorrect method because if you wanted to determine whether the surface of an actual part was curved or straight you would place a straight-edge on the surface of the part which would be the equivalent of the outside edge of the contour line, not the inside edge of the contour line. This incorrect method, together with the fact that the Examiner used relatively thick straight lines and, for unexplained reasons, a copy with particularly poor resolution, obscures the space between the intersecting straight lines and the contour line. Applying a correct method of drawing the intersecting lines on the outside edge of the contour line with a precise and relatively thin line, as I did on the opposite contour lines of Figures 2 and 3 in Exhibits VII and VIII, shows that the contour is curved and does not conform to the intersecting lines.

19. Referring now to Exhibits IX and X, which are enlargements of Figures 1 and 3 of Photoprint B, the present formal drawings, the Examiner, in direct contrast to what she did in Photoprint A, drew the intersecting straight lines on the outside edge of the contour line or beyond the outside edge in an obvious attempt to try to demonstrate a difference between the flashlight head contours in Figures 2 and 3 of Photoprint A and the flashlight head contours in Figures 1 and 3 of Photoprint B. To demonstrate the misleading nature of the Examiner's intersecting lines presentation, I applied the Examiner's incorrect method she used in Photoprint A to the enlargements of Photoprint B. By drawing the intersecting lines on the contour line or on the inside edge of the contour line, as I have done in red on the opposite contour line of the enlarged Figures 1 and 3 of Photoprint B, the space between the contour line and the intersecting straight lines is obscured and makes it appear even on the enlarged copy that the curved contour line conforms to the intersecting straight lines.

20. Exhibits XI and XII were made because these were taken from a better resolution copy of the first sheet of the original patent drawings. Note how much heavier the item numbers are in Exhibits VII and VIII, which were made from the copy used by the Examiner as Photocopy A. Again, by applying intersecting lines in the correct method, it is seen that there is a space between the contour of the head of the flashlight in Figures 2 and 3 and the intersecting straight lines and that the contour is curved and does not conform to the straight intersecting lines.

21. Exhibits XIII and XIV were made because these were taken from the printed patent drawings of U.S. Patent No. 4,577,263 and have the best resolution. Again, by applying intersecting lines in the correct method, it is seen that there is a space between the contour of the head of the flashlight in Figures 2 and 3 and the intersecting straight lines and that the contour is curved and does not conform to the straight intersecting lines.

22. Exhibit XV is an overlay which demonstrates that even on a greatly enlarged scale the curved contour or profile of the head of the flashlight in the present formal drawings, as shown in the upper transparency, closely conforms to the contour or profile of the head of the flashlight in Figure 2 of the original patent drawings, as shown in the bottom opaque velox.

23. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. I also declare further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such

willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Executed at Ontario, California, on this 21st day of November, 1991.

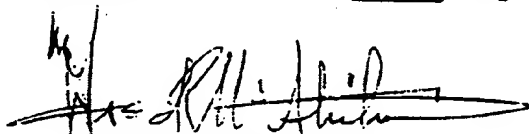

Fred R. McAlister

FIG. 1.

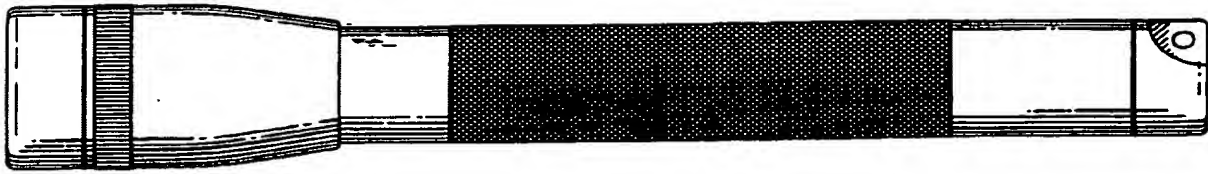
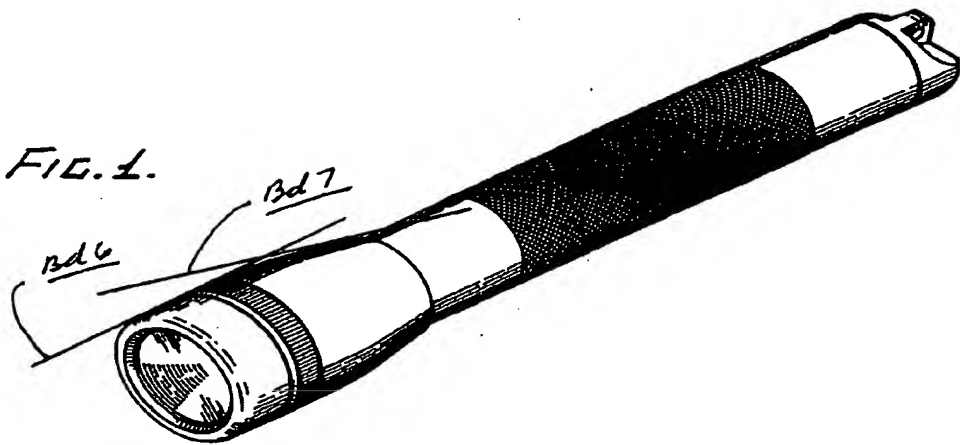


FIG. 2.

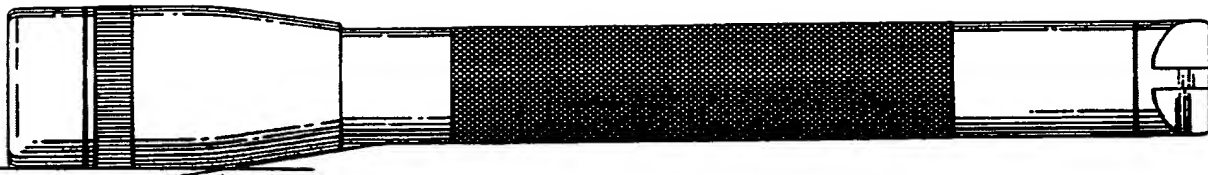


FIG. 3.



FIG. 4.

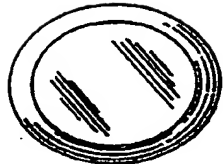


FIG. 5.

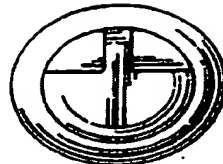


FIG. 6.

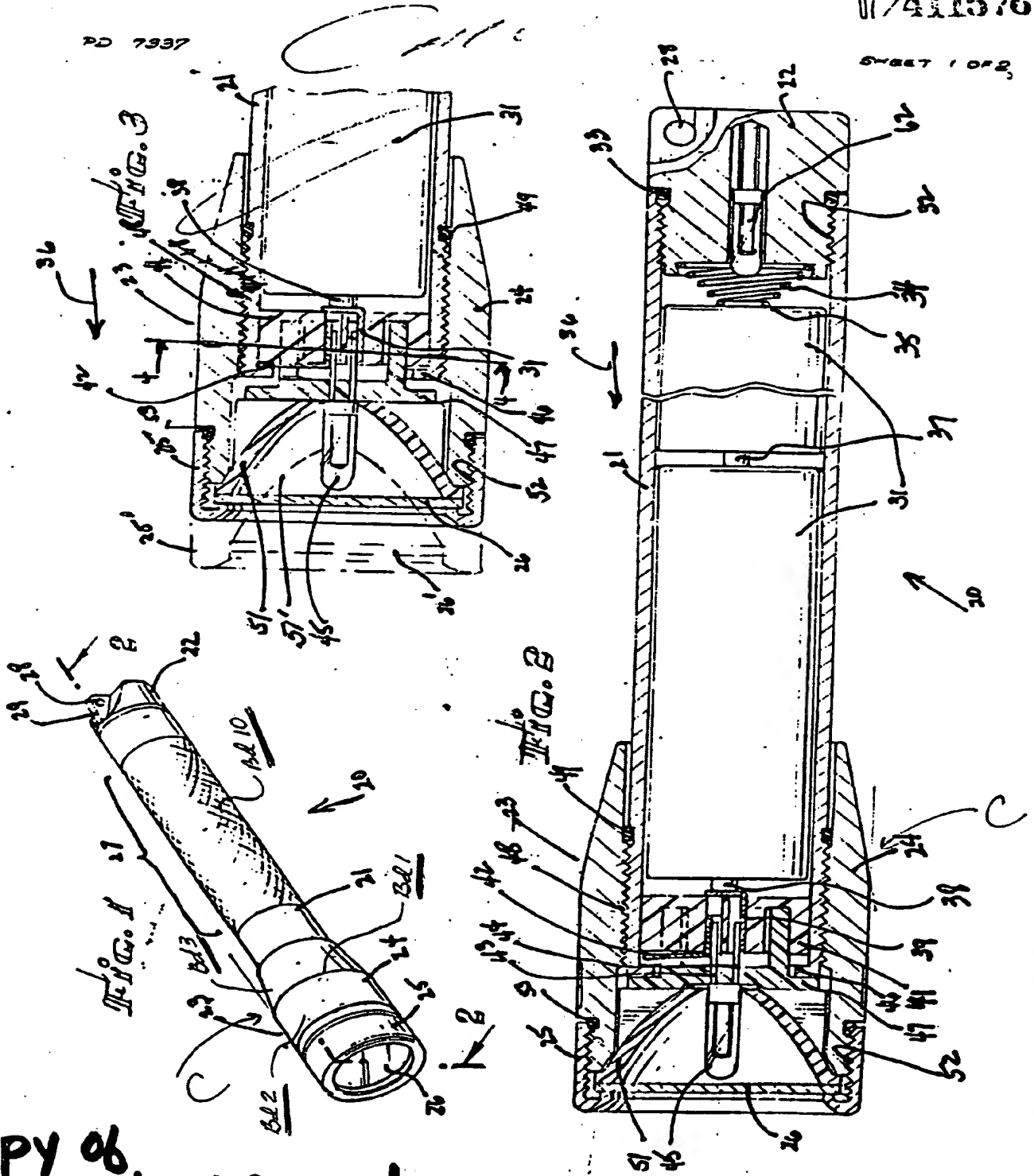
APPENDIX I

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07/411576

SHEET 1 OF 2

PD 7337



copy of
original in form 1

7-23-84

APPENDIX II

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Figure 1 is a front perspective view of a miniature flashlight showing my new design;

Figure 2 is a side elevational view thereof, the other side being a mirror image;

Figure 3 is a top plan view thereof;

Figure 4 is a bottom plan view thereof;

Figure 5 is a front elevational view thereof;

Figure 6 is a rear elevational view thereof;

Figure 7 is a front perspective view of a second embodiment thereof, the tailcap, the knurling on the barrel and the knurling on the head are shown in phantom lines for illustrative purposes only and forms no part of the claimed design;

Figure 8 is a side elevational view thereof, the other side being a mirror image;

Figure 9 is a top plan view thereof;

Figure 10 is a bottom plan view thereof;

Figure 11 is a front elevational view thereof;

Figure 12 is a rear elevational view thereof;

Figure 13 is a front perspective view of a third embodiment thereof, the knurling on the barrel and the knurling on the head are shown in phantom lines for illustrative purposes only and forms no part of the claimed design;

Figure 14 is a side elevational view thereof, the other side being a mirror image;

Figure 15 is a top plan view thereof;

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Figure 16 is a bottom plan view thereof;

Figure 17 is a front elevational view thereof;

Figure 18 is a rear elevational view thereof.

FIG. 1.

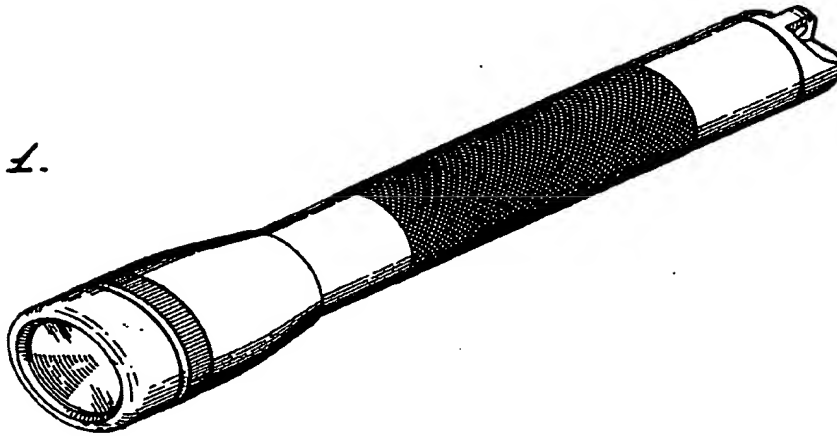


FIG. 2.

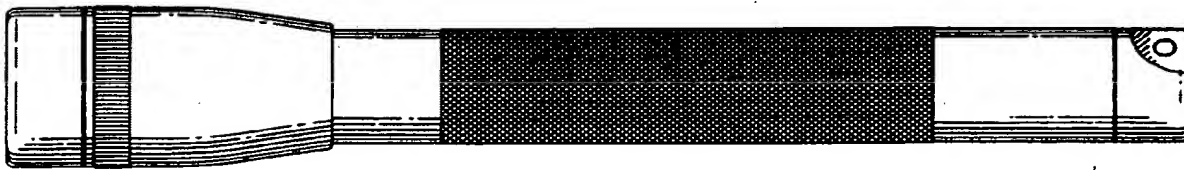


FIG. 3.



FIG. 4.

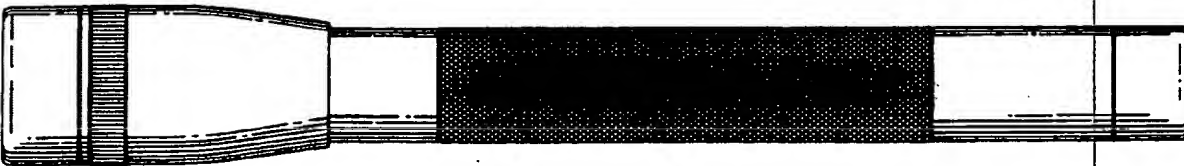


FIG. 5.

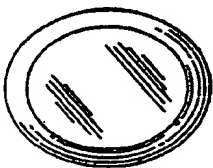


FIG. 6.

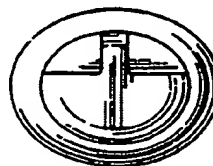


FIG. 7.

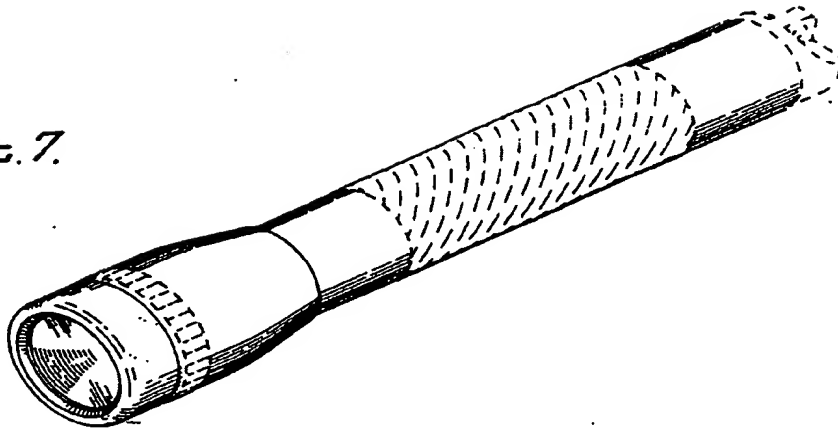


FIG. 8.

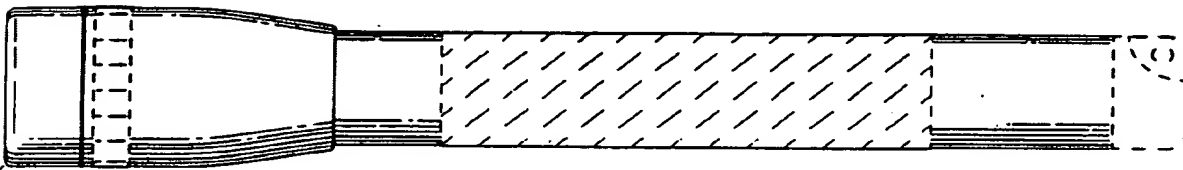


FIG. 9.

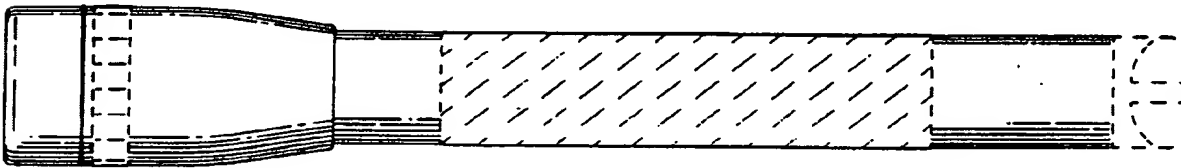


FIG. 10.

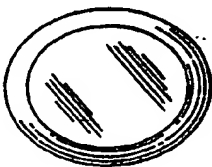
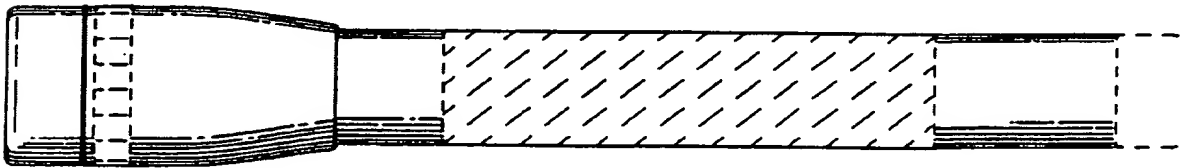


FIG. 11.

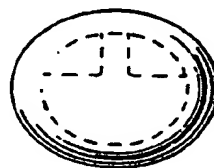


FIG. 12.

FIG. 13.

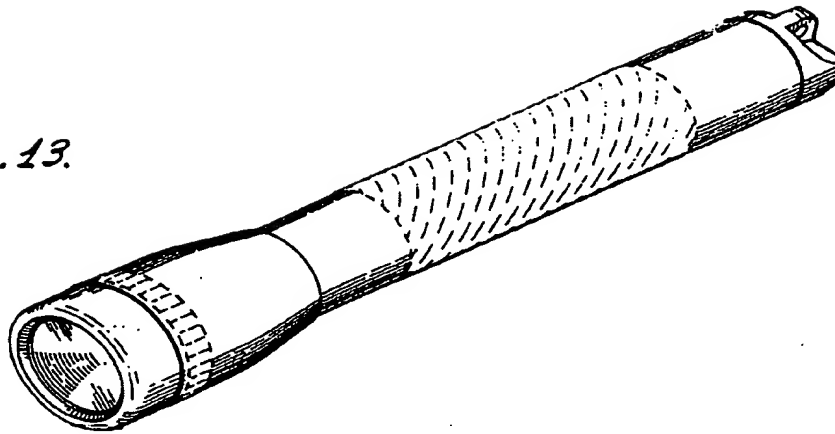


FIG. 14.

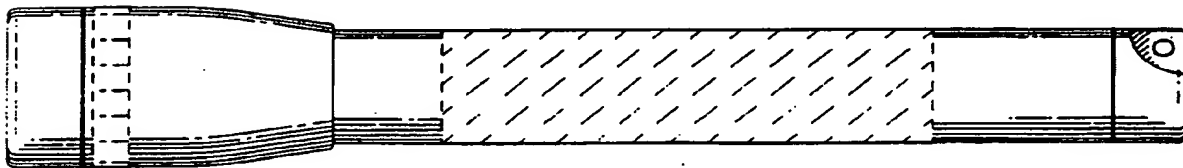


FIG. 15.

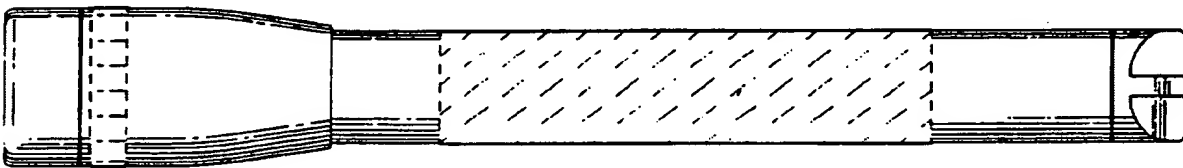


FIG. 16.

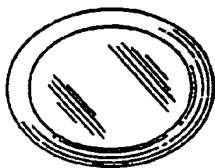
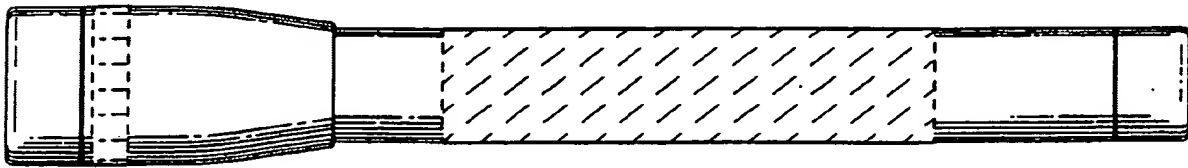


FIG. 17.

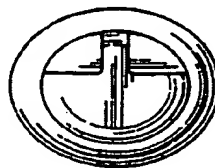


FIG. 18.

APPENDIX III

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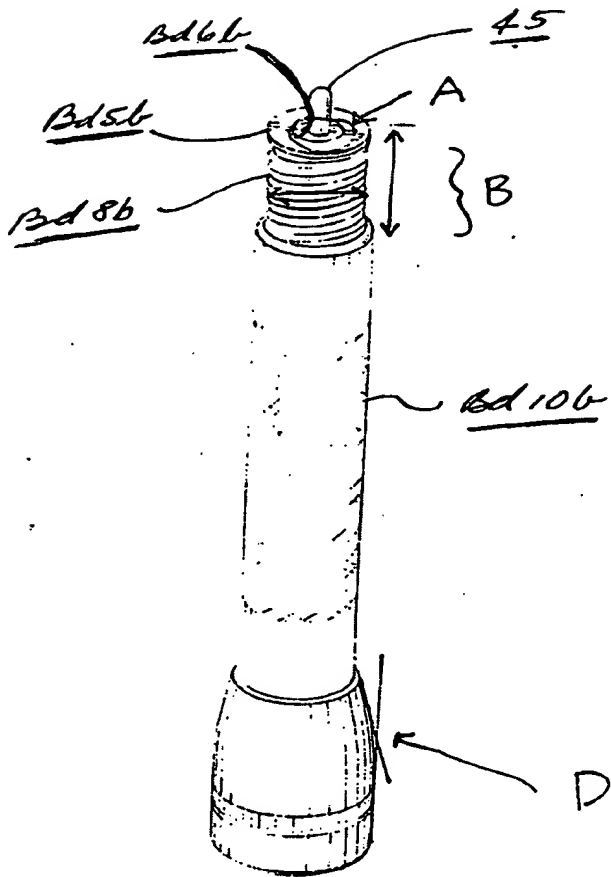


FIG. 1.

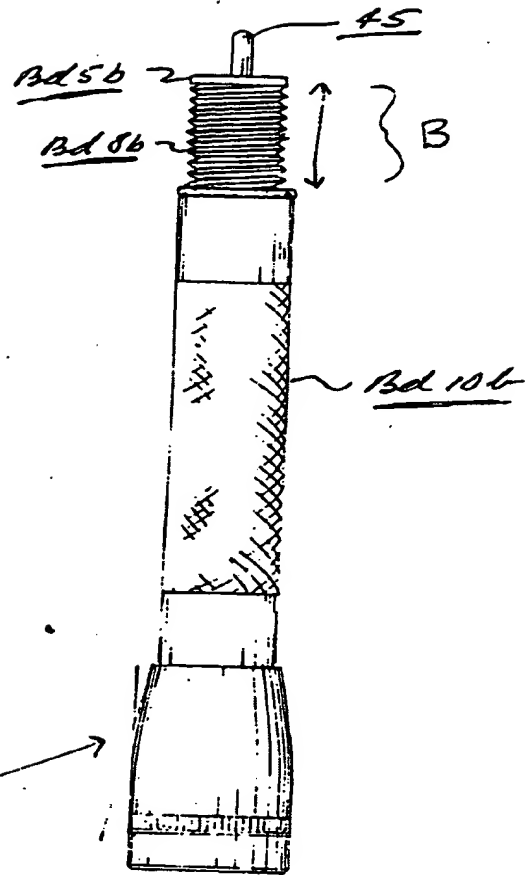


FIG. 2.

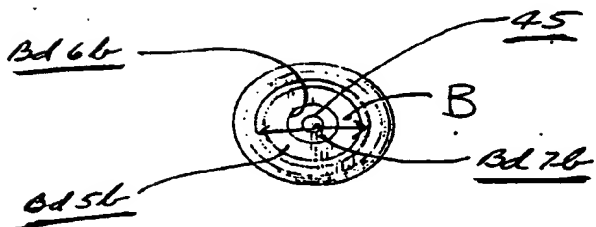


FIG. 3.

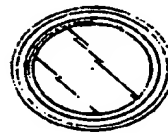
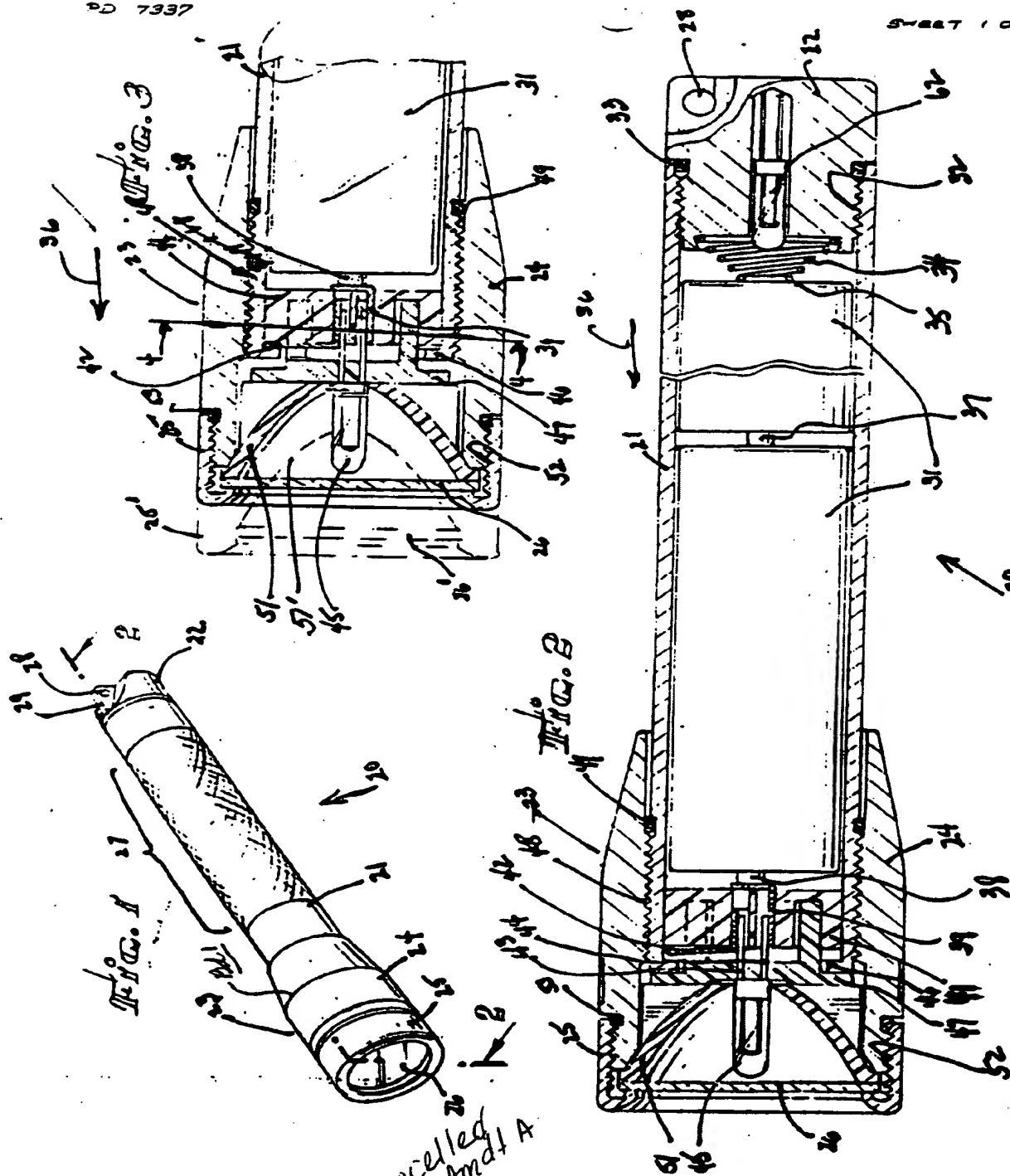


FIG. 4.

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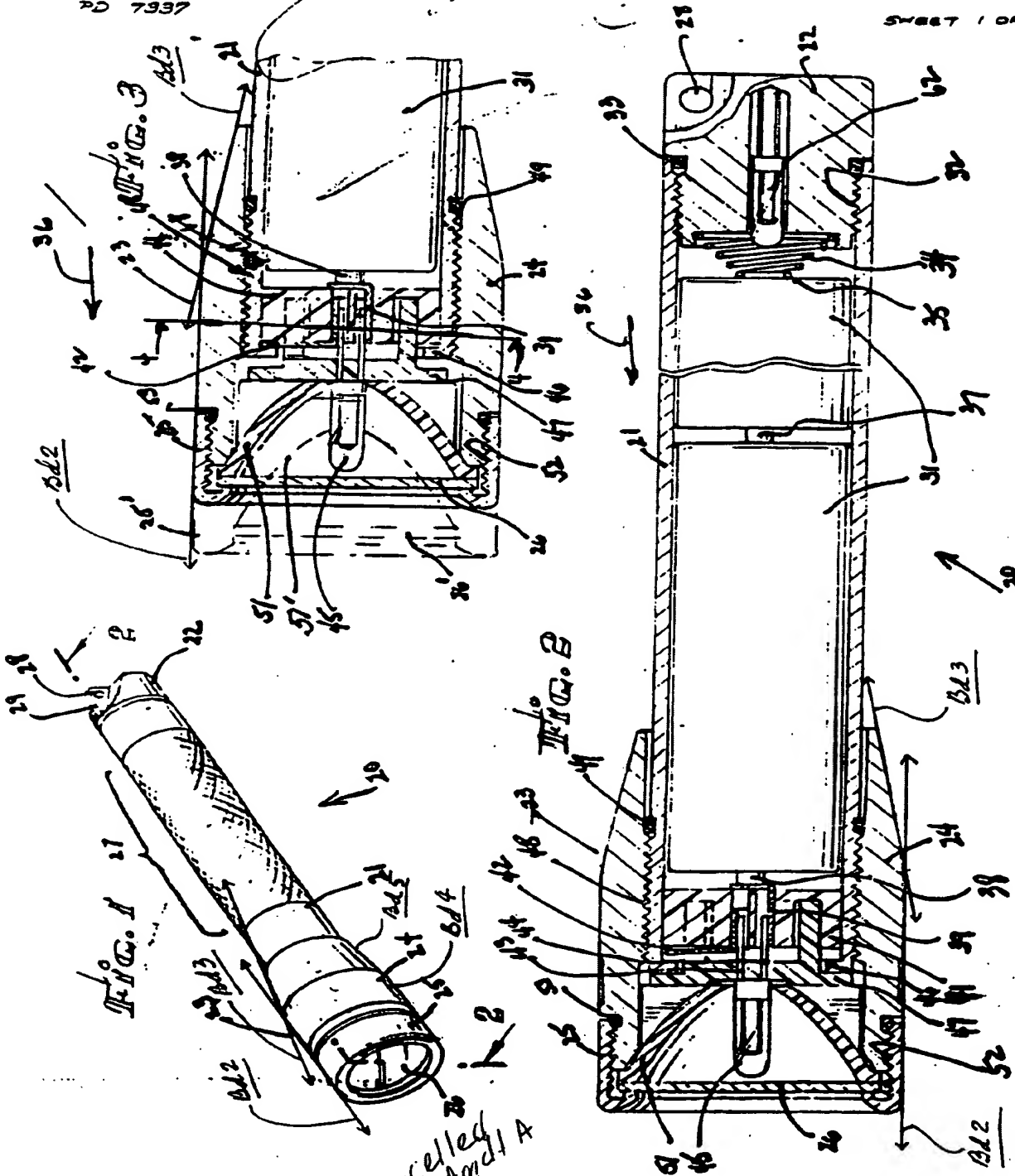


APPENDIX IV

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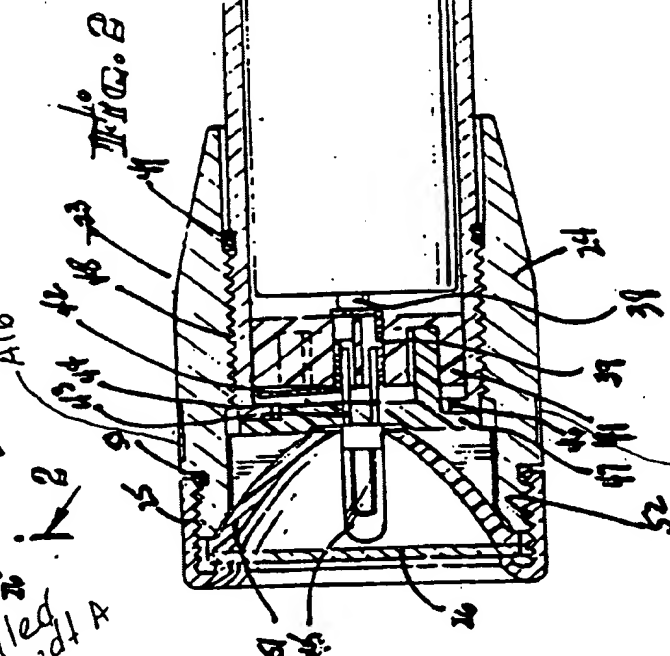
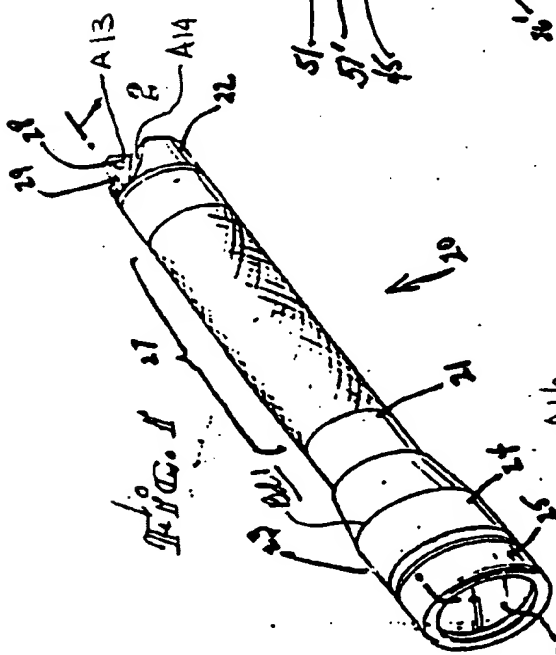
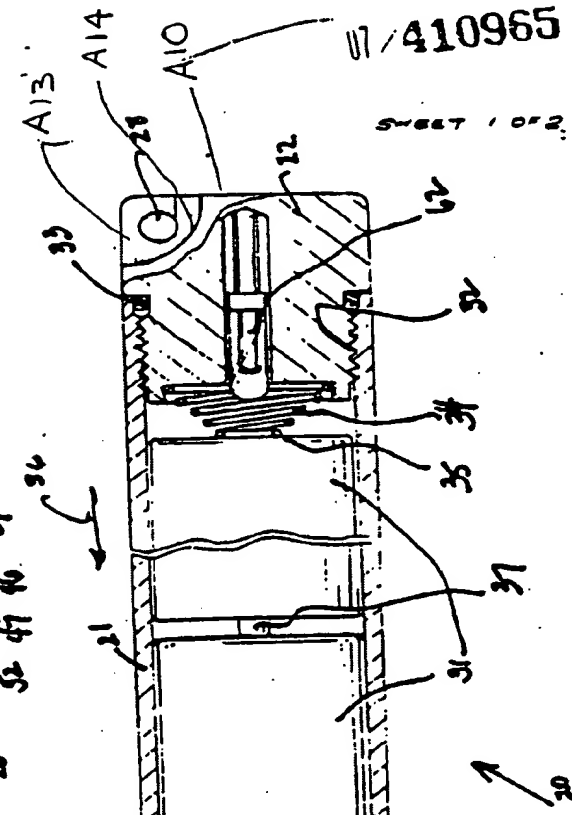
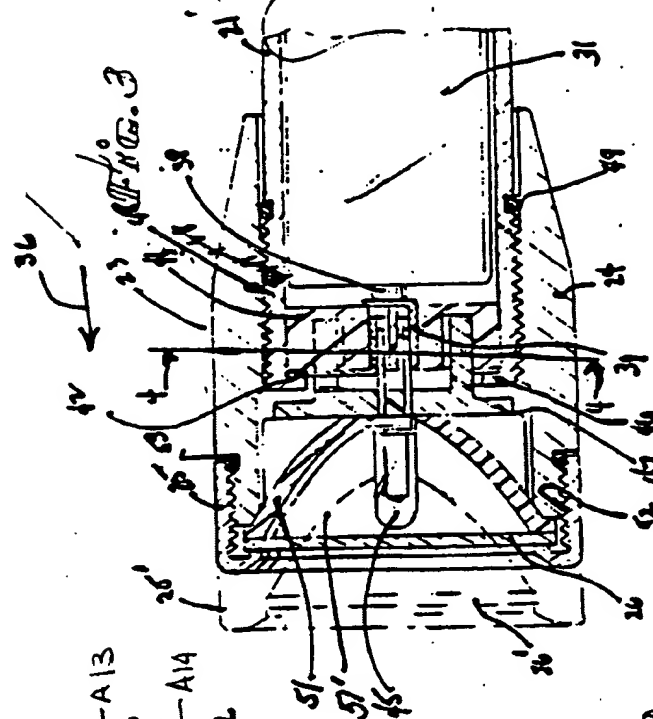
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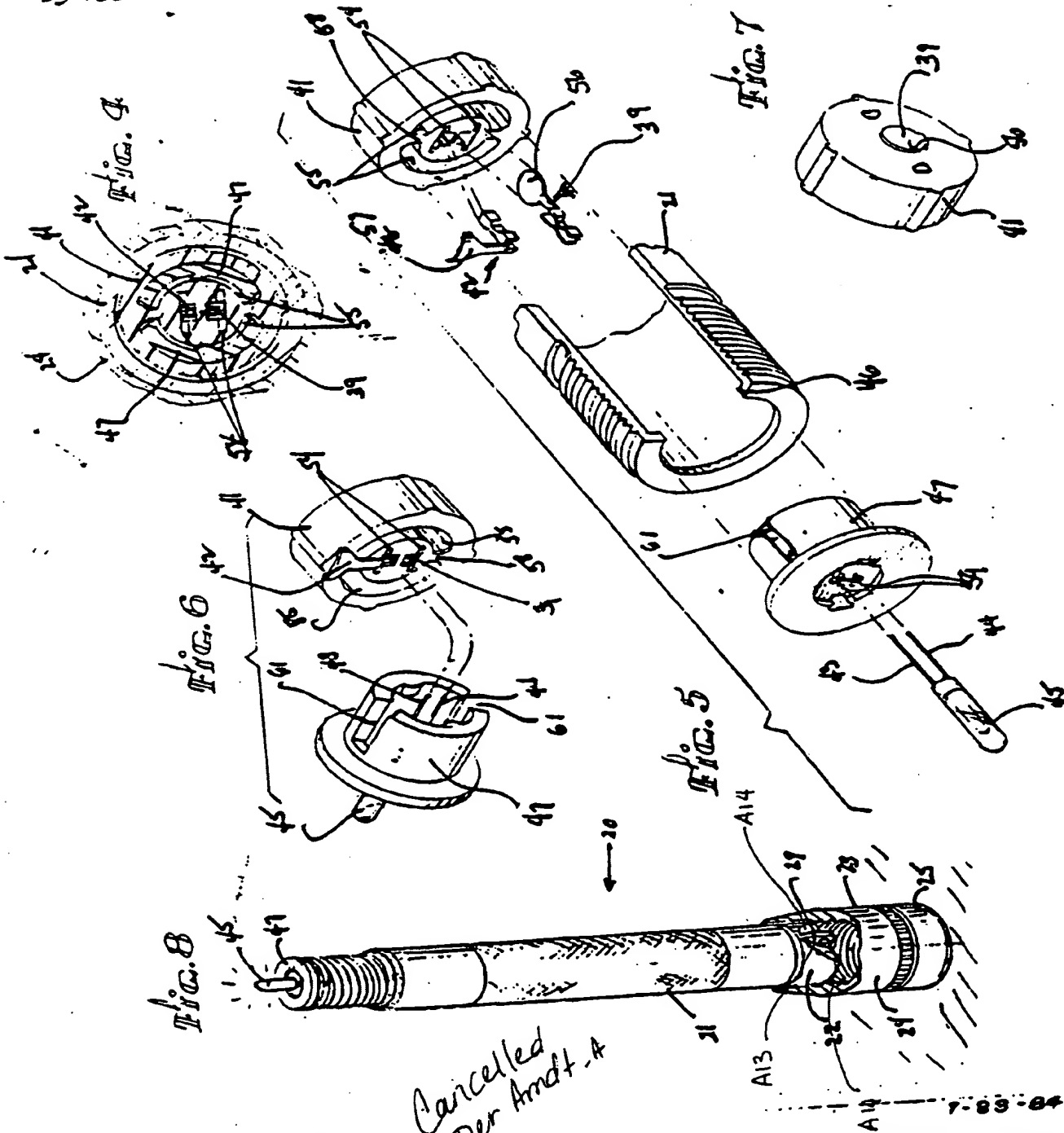
SHEET 1 OF 2



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INSTRUMENT

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FIG. 1.

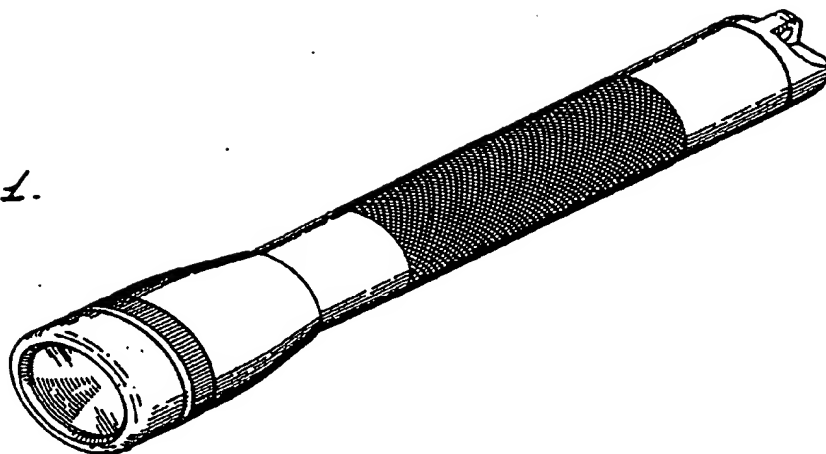


FIG. 2.

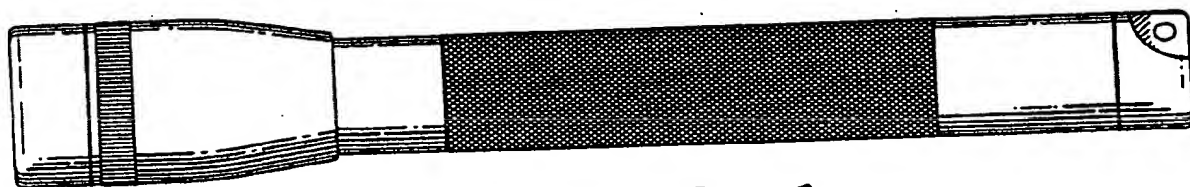


FIG. 3.

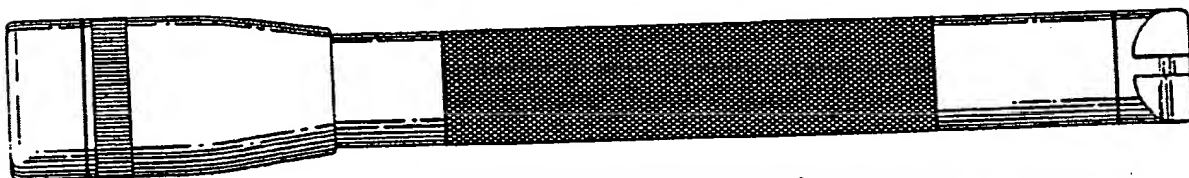


FIG. 4.

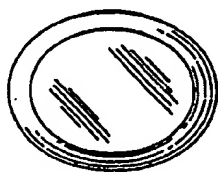
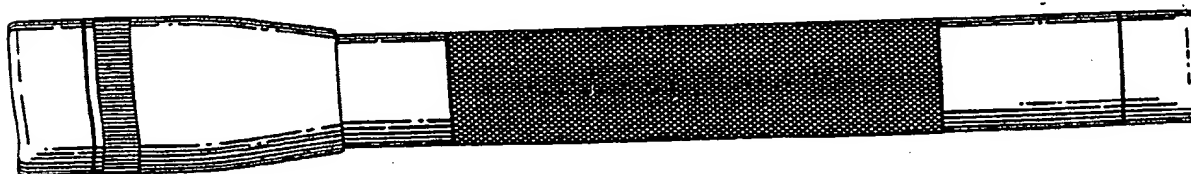


FIG. 5.

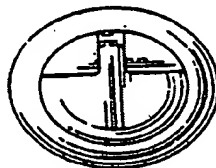


FIG. 6.

APPENDIX V

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FIG. 1.

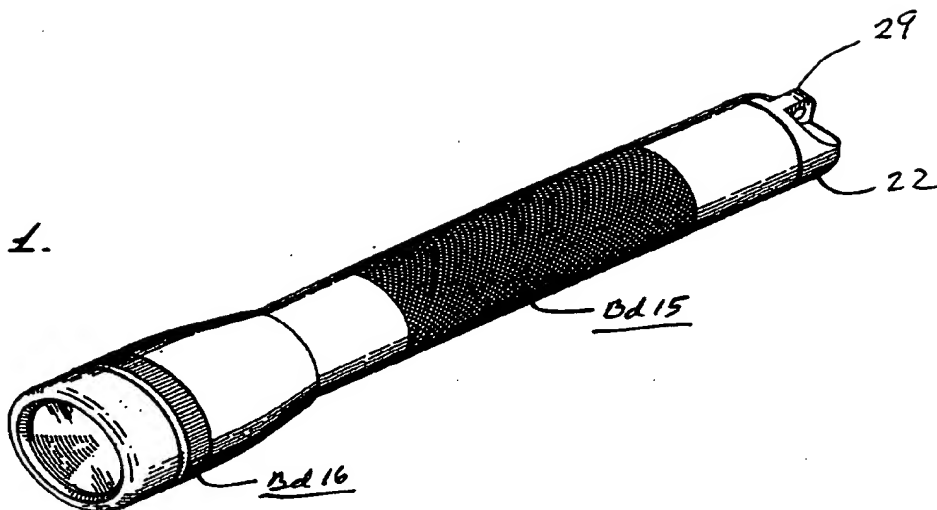


FIG. 2.

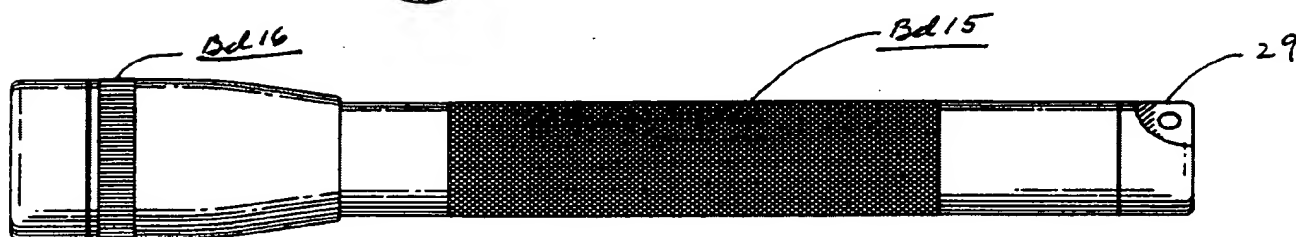


FIG. 3.

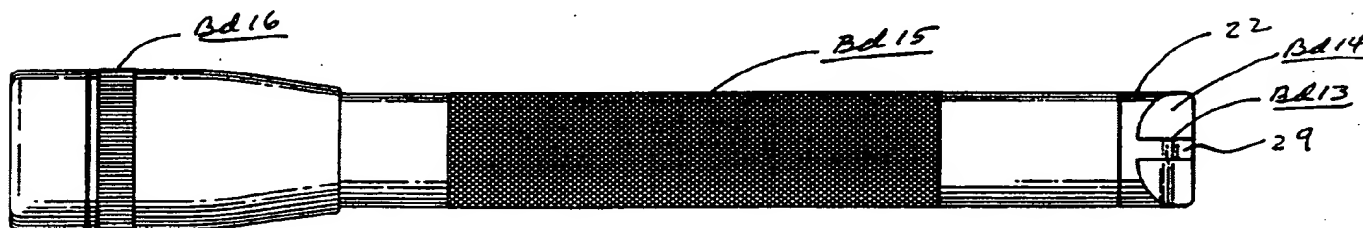


FIG. 4.

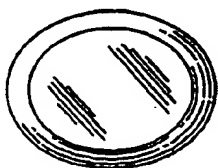
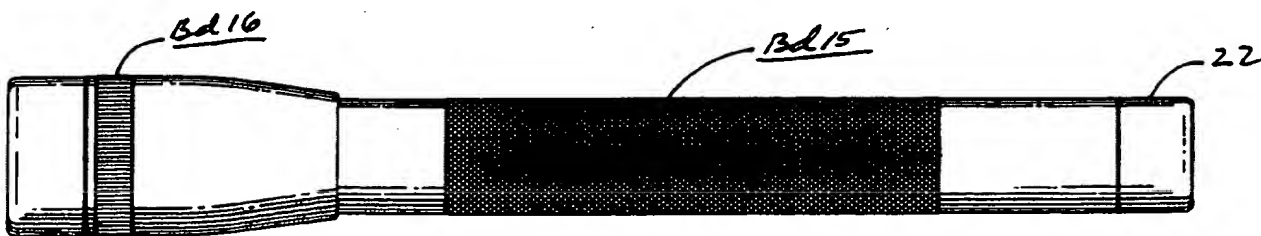


FIG. 5.

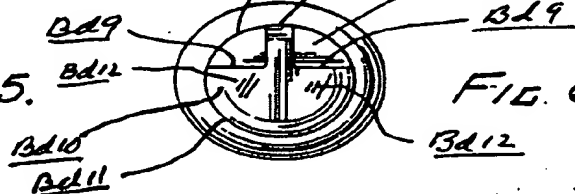


FIG. 6.

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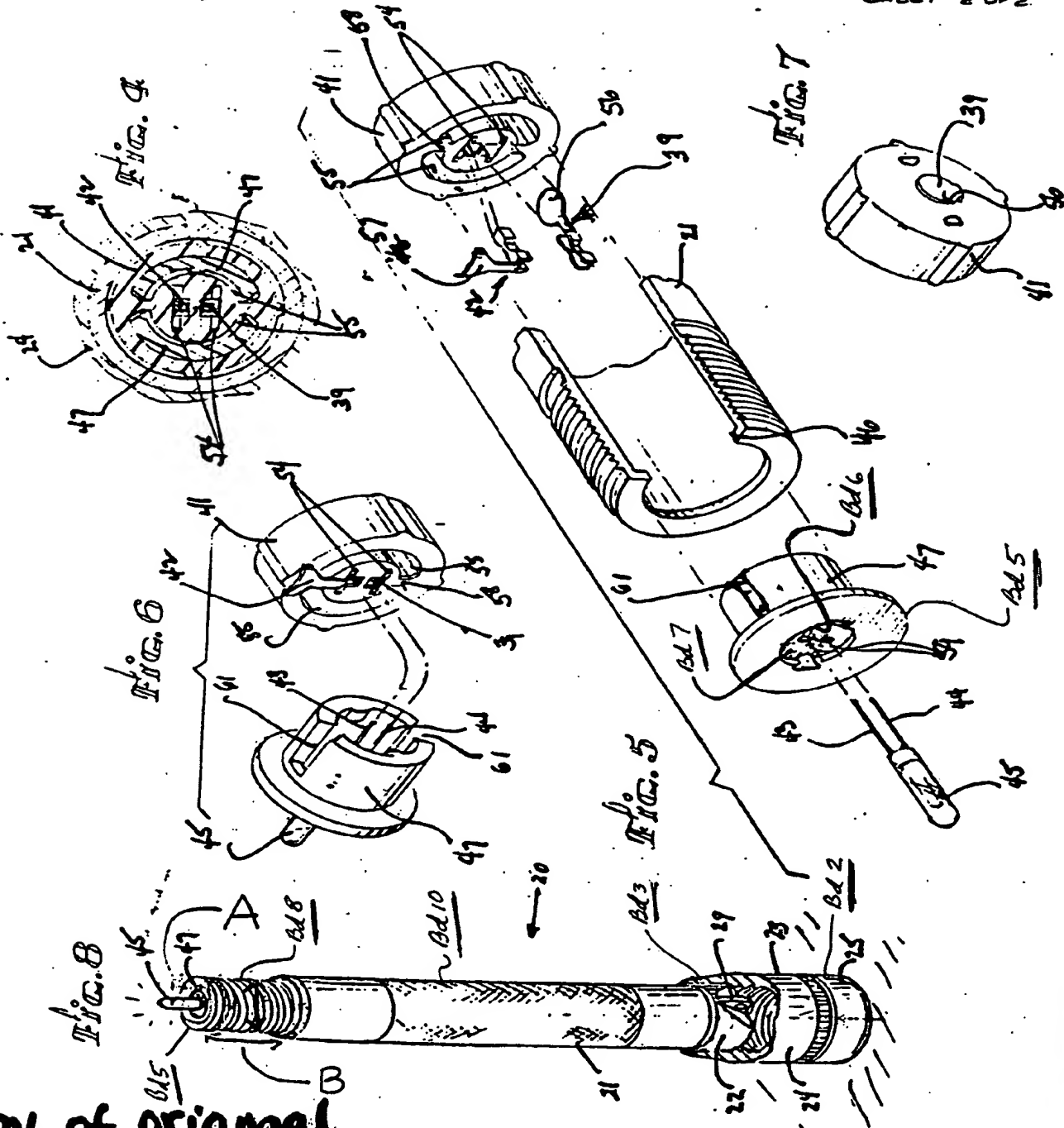


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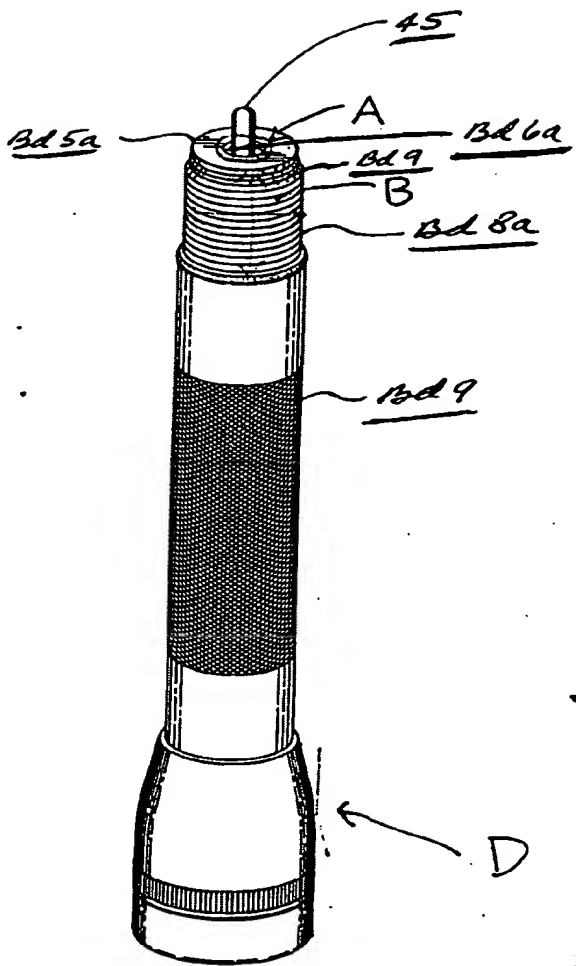


Fig. 1.

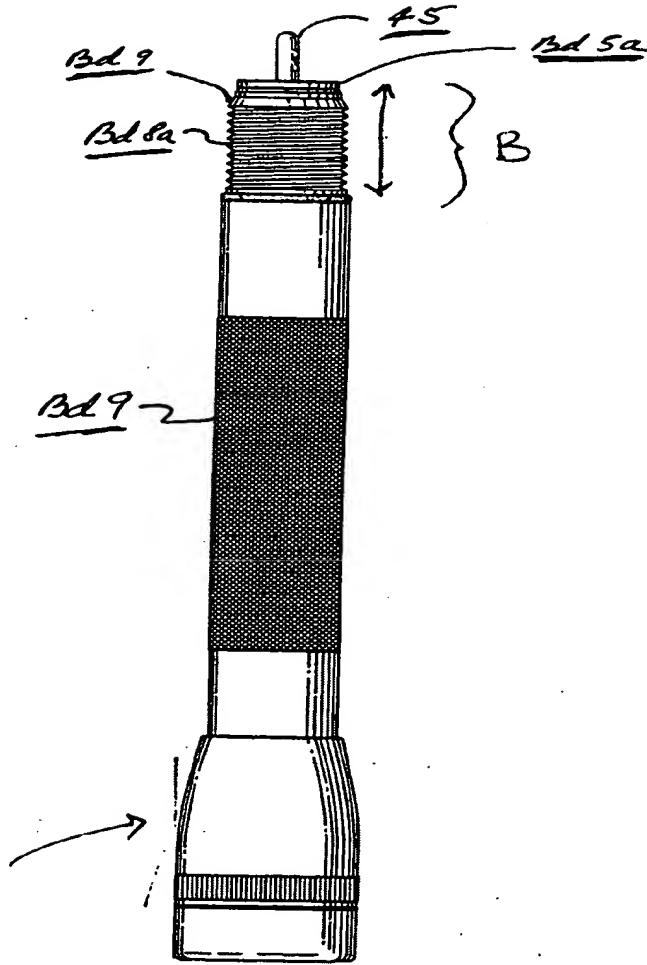


Fig. 2.

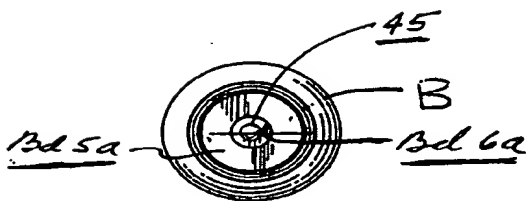


Fig. 3.

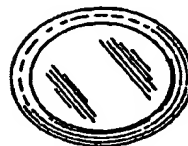


Fig. 4.

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APPENDIX VI

See patent application for copies of these exhibits IV, V, VII, VIII and X through XV which accompanied the declaration of McAlister filed November 25, 1991.

APPENDIX VII

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APPENDIX IV

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